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is again pressed to dryness, and then thrown into an exceedingly dilute sulphuric acid, consisting of fifty grains acid of commerce to a quart of water. By the action of the alkali, nearly all the soluble matter, consisting chiefly of ulmin, or geine of the Continental chemists, is removed in solution; and the fibre, which was of a deep red brown, comes out a light fawn colour; and by the dilute acid, the minute quantity of iron, lime and alumine, &c. existing in it, is carried, together with ammonia when it exists; and the last remains alkali are neutralized. The fibre, after sufficient time, is again pressed dry, and, finally, put into a dilute solution of chloride of lime or bleaching liquid; this, after some time, brings the fibres into the state of a pure, white, fine pulp, which is pressed from the solution, washed in pure water, and used either alone or in combination with fibre from rags, for the ordinary purposes of the paper maker.

The alkaline solution, from which the fibre has been separated, consists chiefly of an impure geinate of potash or soda, whichever has been used. Dilute sulphuric acid is added to this, which takes up the alkali and the geine precipitates; it is separated by filtration, and dried by a steam or water bath.

The pigment called "Vandyke brown" has long been known to painters, both in oil and water colours, as a durable and rich colour; the dry precipitate thus obtained is, in fact, this very pigment, in its purest and most splendid state. When once dry, it ceases to be soluble in water, and, consequently, is not deliquescent, but it is miscible readily with gum, mucilages, size, or oils.

The quantity of alkali used in this process is small, but, if found worth while, its combination with the acid may be made available in commerce.

After the turf fibre has been for a time exposed to the action of the chloride of lime in excess, in some cases a resinous looking film appears on the surface of the fluid; by operating on a large quantity, and careful management, this may be separated, and is found to be a composite substance, consisting of a species of artificial camphor, of a gum resin, and of an essential oil.

It seems probable, that the first is produced by the action of free chlorine on some minute quantity of turpentine, contained in the turf: and it is a curious fact, that chemistry should thus, as it were, recal to observation, and decompose, the turpentine of plants, which have ceased to exist as living vegetables, perhaps for centuries. The properties of this substance have not been strictly examined, owing to the small quantity in which it is procured; it is ascertained, however, to be a compound, as its boiling point changes during its volatilization. Its specific gravity is about that of common camphor—it is insoluble in water—soluble, to a considerable extent, in alcohol, and the remainder is soluble in proof spirit, appearing to be a gum resin; it does not wholly dissolve in caustic alkalies; strong sulphuric acid converts it into charcoal, and a substance analogous to artificial tannin. It is also partly soluble in volatile and fixed oils, and from the former it crystallizes on evaporation.

Specimens of the white pulp of the bistre, or brown pigment, and of the artificial camphor, were exhibited by Mr. Mallet. The pulp is fully equal, in appearance, to that from the best fine rags, and nearly as tough in fibre; about eighteen pounds of it may be procured from one hundred weight of crude turf. Mr. Mallet also exhibited specimens of a new description of board paper, or mill-board, for engineers' use, prepared from this variety of turf, by an exceedingly simple process. The turf, whose fibres lie naturally very nearly parallel, is cut of the required size, about two feet square, by three inches thick; when dry, it is placed in a close cast-iron vessel, the air exhausted, and a mixture of dissolved glue and molasses, at a boiling heat, poured over it, which fills up all the pores; the turf is then removed, while hot, and subjected to the pressure of an hydraulic press, by which the superfluous fluid is expressed, and its substance condensed to about three-eighths of an inch in thickness; in this condition it is strong, tough, flexible, and fit for all the uses of common board paper; it is not injured, nor is it permeable by high pressure steam. Various other materials may be used for filling the pores, as boiling coal tar,

fat oils, wax, paints, &c.; this would appear to open a most valuable manufacture.

It is worthy of remark, that the kind of turf suited for all the above purposes is precisely that which is the worst possible as fuel, by a singular, natural, but coincident adaptation; there is reason, therefore, to hope that, owing to these and other discoveries, the time may arrive when the bogs of Ireland will be better valued than they have been—when art will show them to be magazines of the richest manure—to be, when properly prepared, a fuel scarcely inferior to coal—and to produce the materials for paper and colours; instead of being looked upon as the blot upon her fair and fertile champaign, they may become the reservoir of her riches, and the residences of her manufacturing industry.



E. Heyden, del.

RUINS OF IMMOKILLY CASTLE.

The town, or rather village, of Castlemartyr differs very materially from most of the little towns and villages in the South of Ireland, as presenting an appearance of cleanliness and comfort not frequently observable elsewhere. It consists principally of one long street, apparently terminated by the venerable entrance to the noble demesne of the Earl of Shannon, to which access may be had on proper application. The house is not, indeed, very prepossessing in its appearance, being rather old and somewhat in the Grecian style, and must (from its situation) be seen at too short a distance to have that imposing effect which it would have if viewed farther off. The extensive demesne exhibits at once almost every variety of nature—the wood appears to great advantage, and it is evident was originally intended more for a display of natural beauty than for economy; whole herds of deer are seen in every quarter, and of almost every colour. The beauty of the demesne is still further improved by a circuitous canal, which is, in many places, ornamented by rustic and other fancy bridges, near splendid cascades; the intermediate sheet of water is at all times stocked with abundance of aquatic birds of various species, whose nature seems changed, from the frequency of visitors, particularly during the summer months. The gardens, which are attached to the demesne, contain every variety of fruits and flowers peculiar to that province, and are, undoubtedly, laid out with the most classic taste.

A road from the town, bounded on one side by the demesne, and overshadowed by lofty elms, leads on to Lady's Bridge—on a summer's evening, a most fashionable and agreeable rural promenade. From this may be seen, finely situated, the ruins of Immokilly Castle, distant somewhat more than one mile from the town. Neither its external or internal appearance at present possess many marks of feudal grandeur, or of skill or taste in that style of architecture by which we so easily distinguish the invulnerable fortress of its date of origin, as appears from an inscription on a chimney-piece, which ornaments the fire-place of one of the principal rooms, and which I copied verbatim—

EDMUNDVS SVPPEL DOMINVS MARGRITAQVE GERALD
HANC STRUXERE DOMVM QVO SLIGATVNVS AMOR

1641

E. H.